

#### ABSTRACT OF THE DISCLOSURE

5 A method and kit is provided for assaying homocysteine in a biological sample containing homocysteine and cysteine. A competing compound with an amino group ( $-NH_2$ ) is mixed with the biological sample. An aldehyde, e.g. o-phthalaldehyde, is added to the biological sample to form homocysteine complex with fluorescence. The concentration of homocysteine in the biological sample is determined according to the fluorescent intensity.